

A table structure labeled 100. It has two columns. The left column contains values $z = |x_1 - x_2|$, z_0 , z_1 , z_2 , \vdots , and z_{N-1} . The right column contains values $\log_{table}(z) = \log(1 + e^{-z})$, a_0 , a_1 , a_2 , \vdots , and a_{N-1} . A bracket on the left side of the table is labeled 103, pointing to the first row. A bracket on the right side is labeled 105, pointing to the second row. A bracket at the top is labeled 102, pointing to the first column. A bracket at the top is labeled 104, pointing to the second column.

$z = x_1 - x_2 $	$\log_{table}(z) = \log(1 + e^{-z})$
z_0	a_0
z_1	a_1
z_2	a_2
\vdots	\vdots
z_{N-1}	a_{N-1}

Figure 1 (Prior Art)

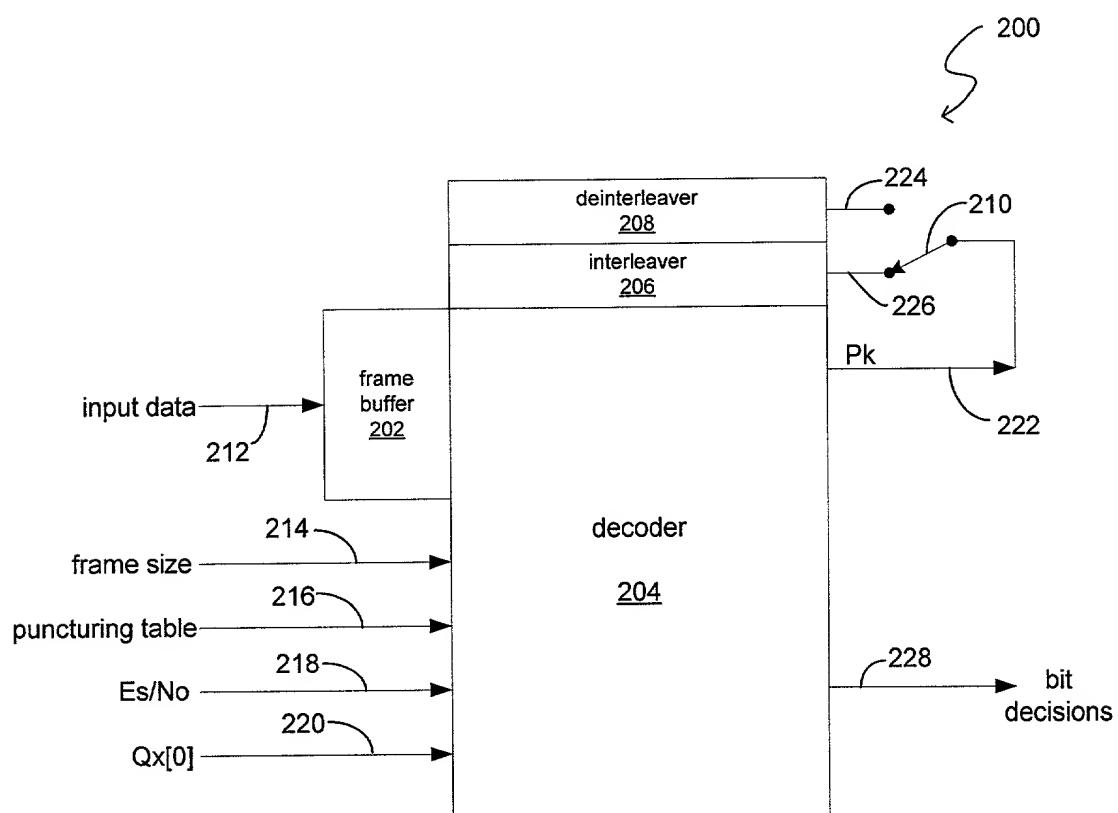


Figure 2

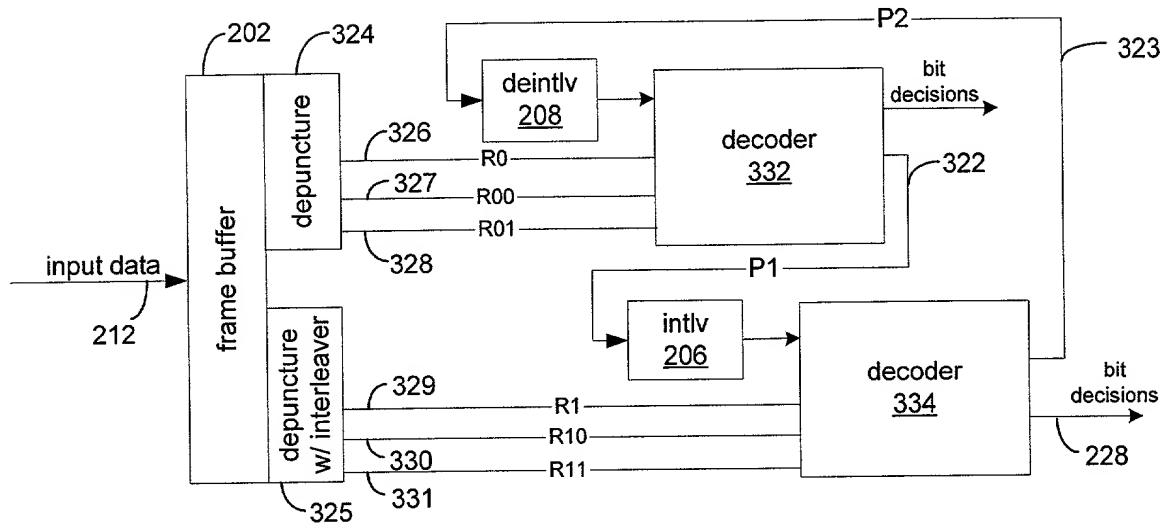


Figure 3

The diagram shows a look-up table (400) used for generating log_{s-table}(z̃) values. The table has two columns: column 402 contains expressions for z̃ and column 404 contains the corresponding log_{s-table}(z̃) = log(1 + e^{-z})σ² values. The table entries are:

Column 402	Column 404
$\tilde{z} = z\sigma^2$	$\log_{s-table}(\tilde{z}) = \log(1 + e^{-z})\sigma^2$
\tilde{z}_0	\tilde{a}_0
\tilde{z}_1	\tilde{a}_1
\tilde{z}_2	\tilde{a}_2
\vdots	\vdots
\tilde{z}_{N-1}	\tilde{a}_{N-1}

Arrows point to specific entries: arrow 406 points to the first row, and arrow 407 points to the last row.

Figure 4

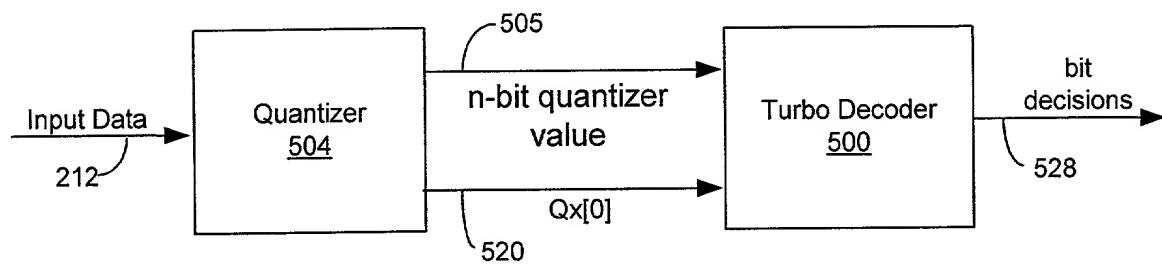


Figure 5

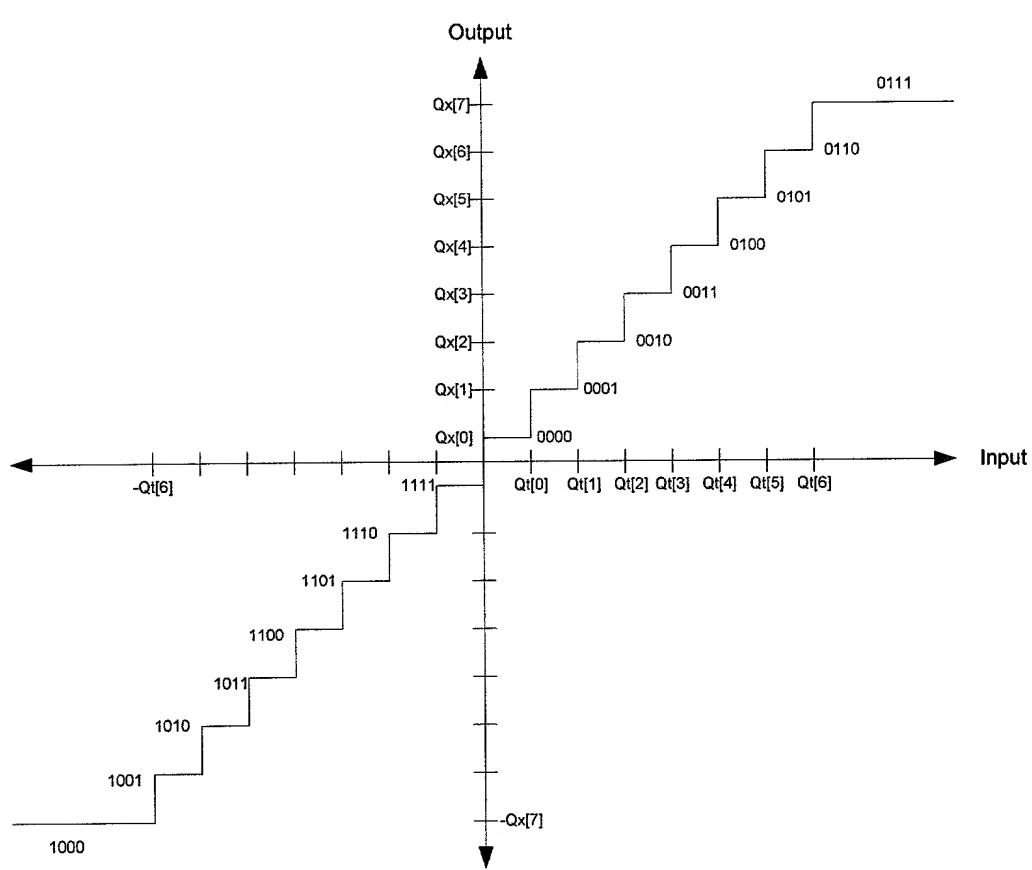


Figure 6

$z' = z\rho\sigma^2 / Qx[0]$	$\log_{s-table}(z') = \log(1 + e^{-z})\rho\sigma^2/Qx[0]$
z'_0	a'_0
z'_1	a'_1
z'_2	a'_2
\vdots	\vdots
z'_{N-1}	a'_{N-1}

Figure 7

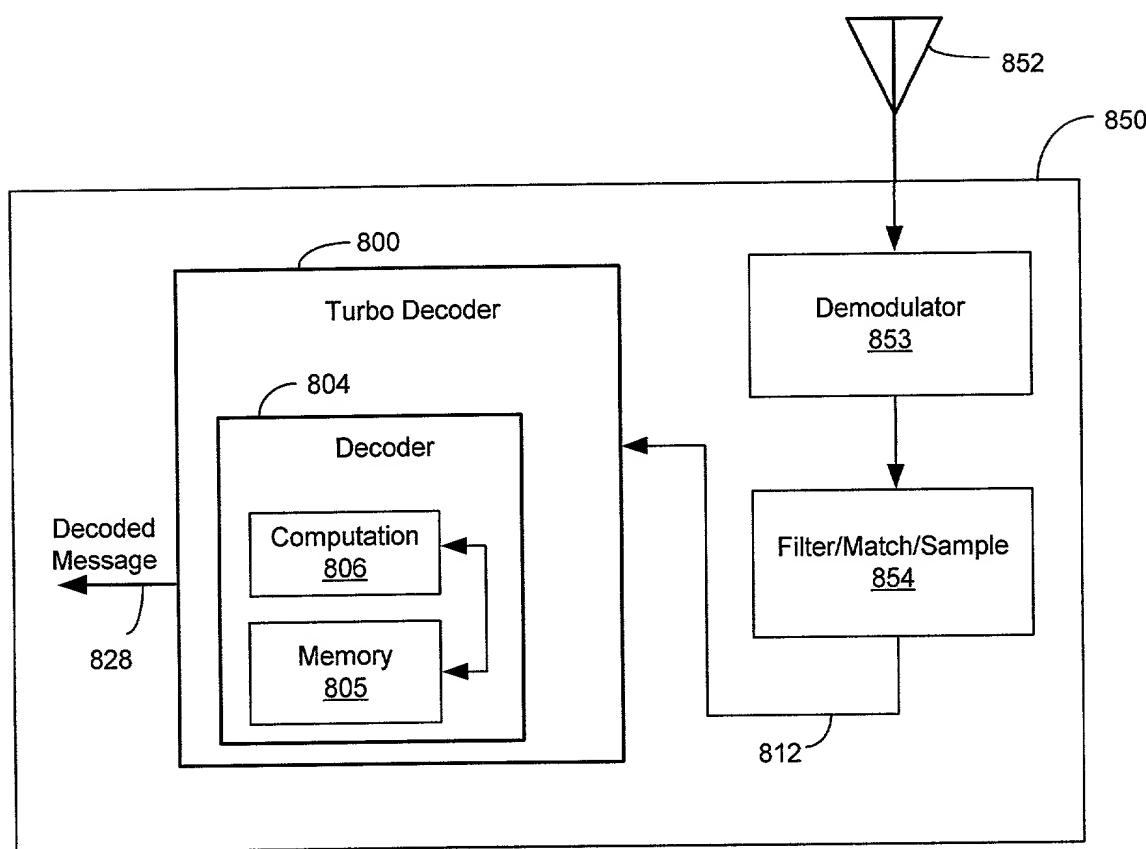


Figure 8

\bar{z}	z_{Addr}	$\log_{table}(\bar{z}) = \log(1 + e^{-\bar{z}})$
$\bar{z}_0 = 0$	0	\bar{a}_0
$\bar{z}_1 = 1 \times 2^{\lfloor \log_2(z_1) \rfloor}$	1	\bar{a}_1
$\bar{z}_2 = 2 \times 2^{\lfloor \log_2(z_2) \rfloor}$	2	\bar{a}_2
\vdots	\vdots	\vdots
$\bar{z}_{2N-1} = (2N-1) \times 2^{\lfloor \log_2(z_{2N-1}) \rfloor}$	$2N-1$	\bar{a}_{2N-1}

Figure 9

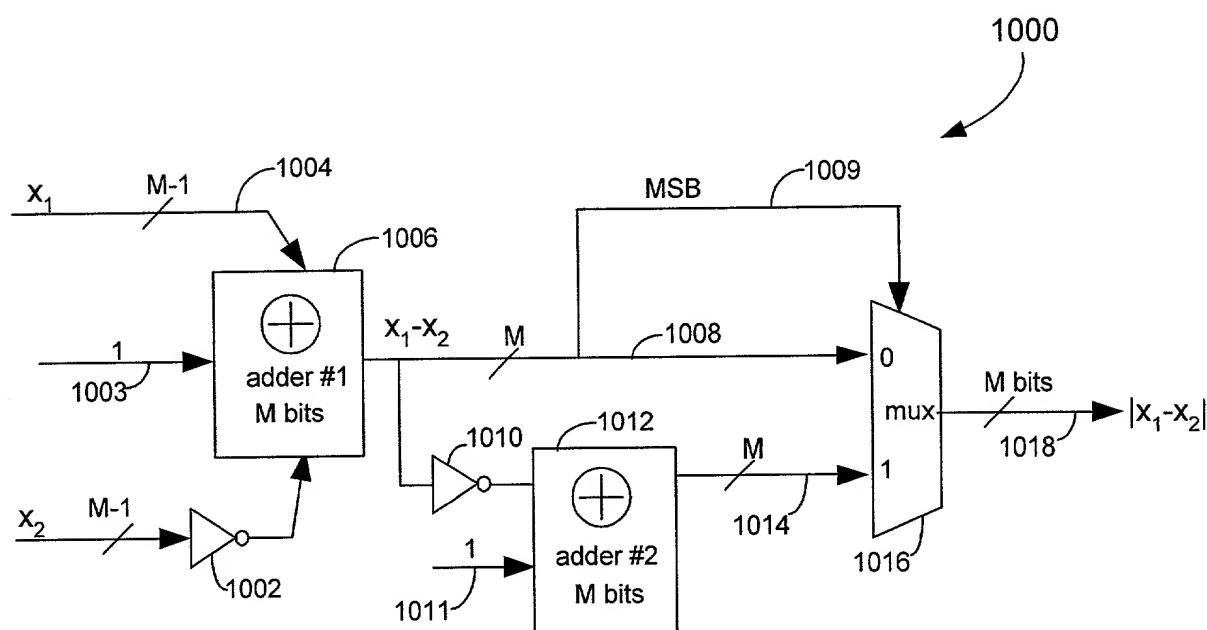


Figure 10

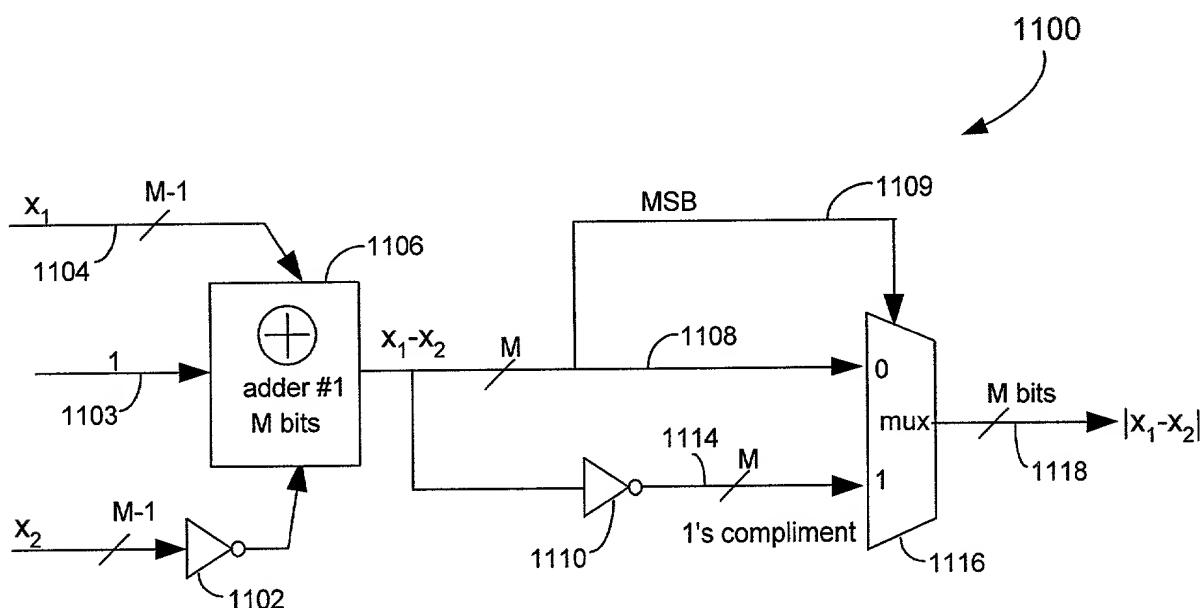


Figure 11

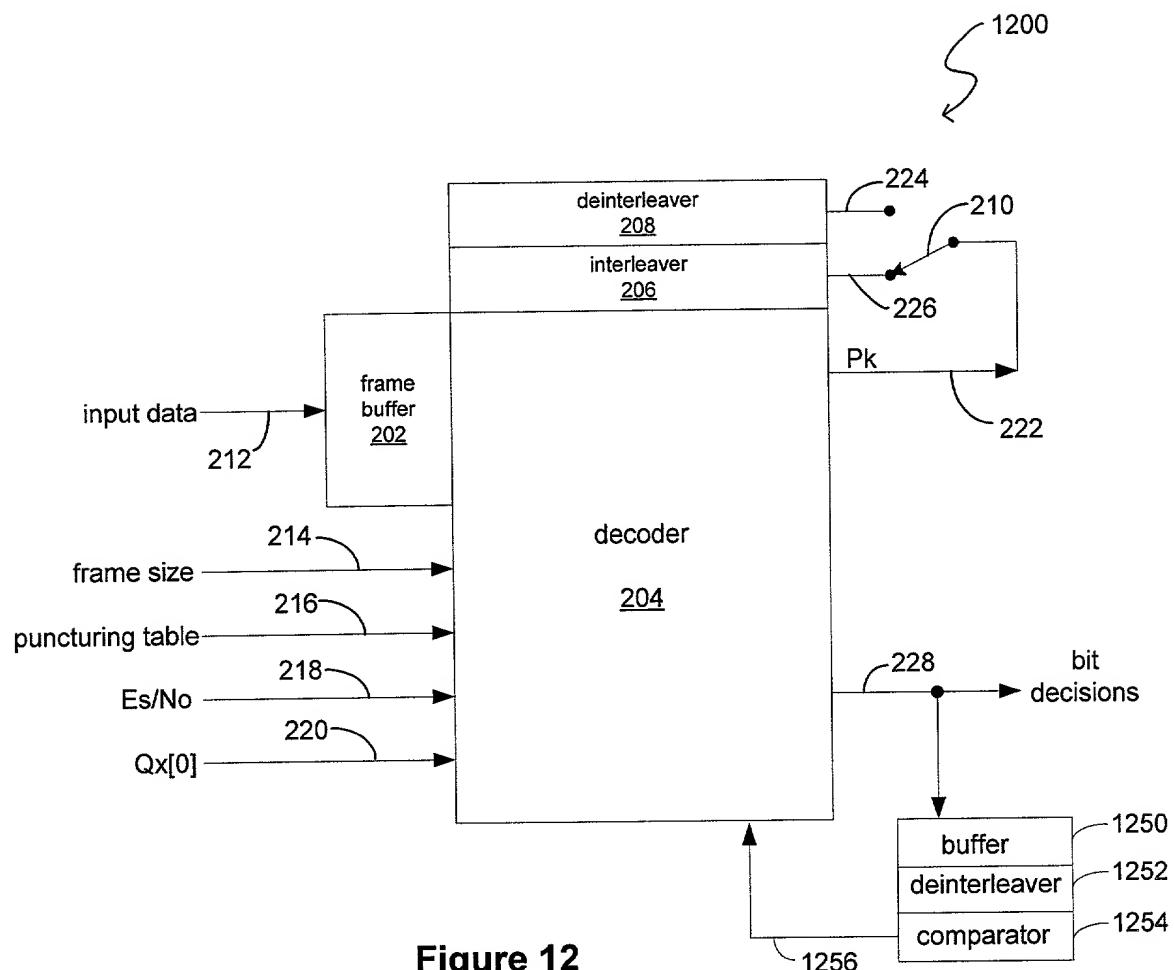


Figure 12

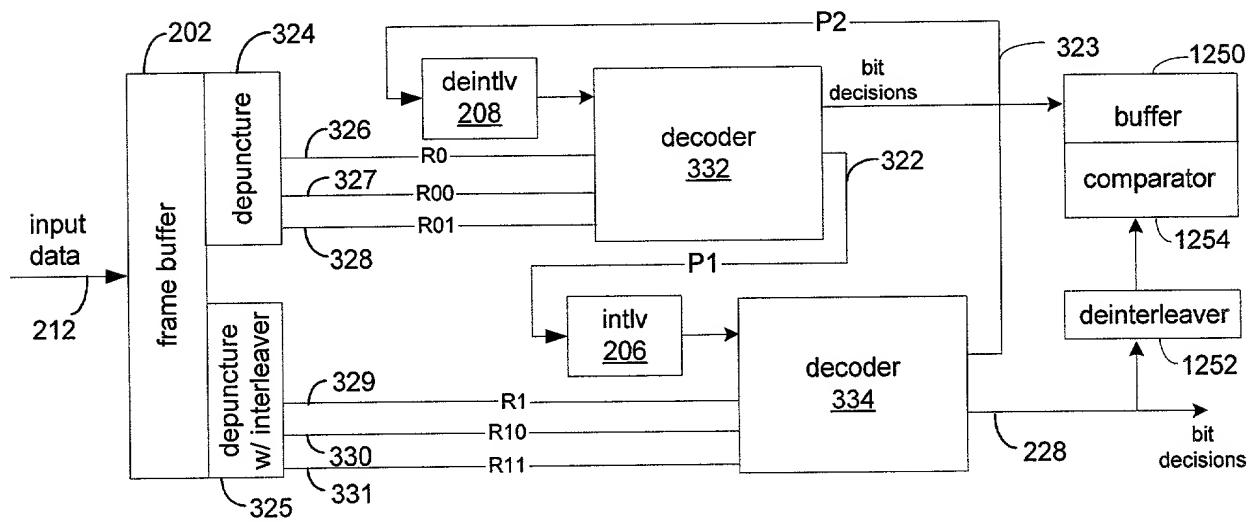


Figure 13